

00000002

SITE ASSESSMENT REPORT
FOR
METRO PLATING SITE
DETROIT, WAYNE COUNTY, MICHIGAN
TDD 805-9704-014
PAN 7A1401SIXX

June 1, 1997

Prepared for:

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
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1. Introduction

On April 17, 1997, the United States Environmental Protection Agency (U.S. EPA) tasked the Ecology and Environment, Inc. (E & E), Superfund Technical Assessment and Response Team (START), under Technical Direction Document (TDD) S05-9704-014, to perform a site assessment at the Metro Plating (MP) site in Detroit, Wayne County, Michigan. Tasks to be completed included: obtain and review existing site, facility and/or release data provided by U.S. EPA; obtain and review files of state and local authorities, other Federal Agencies, and interested parties; interview site owner(s)/operator(s), state/local officials, residents, and other interested parties; conduct a site visit; document site conditions with written and visual documentation; assess site for immediate threat to public health or the environment, the potential need for a removal action, further investigation, no further investigation, no further action, state referral, and/or referral to other Federal Agencies or U. S. EPA programs; determine site characteristics (populations, sensitive environments, site usage, hydrogeological and meteorological conditions, and other pertinent conditions); determine pollutant dispersal pathways; develop a health and safety plan for field activities; conduct sampling activities on site; schedule/provide for analytical support; perform air monitoring; perform analytical data validation; assess risks associated with the site; and provide cost information for response alternatives. These activities were performed at MP to evaluate the site's threat to human health and the environment based on Title 40 Code of Federal Regulations (CFR) 300.415, National Oil and Hazardous Substances Pollution Contingency Plan (NCP). The START members conducting the site assessment with the U.S. EPA On-Scene Coordinator (OSC) Robert Buckley, were Erin Edlinger and Cedric Gibson. Photodocumentation of MP is presented in Appendix A of this report.

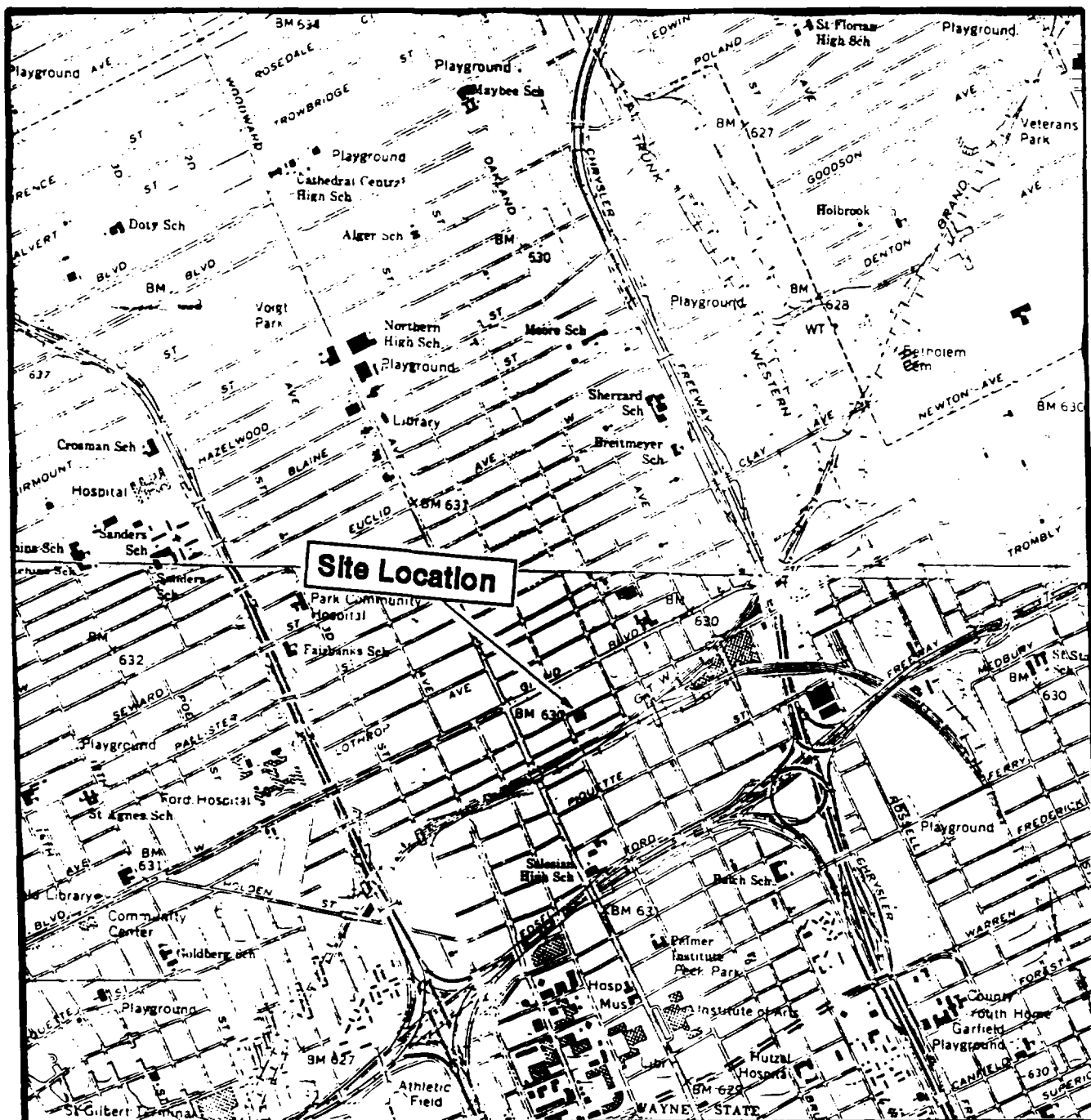
2. Background



2.1 Site Description

The MP site is an abandoned chrome plating facility located at 220 East Milwaukee Street, Detroit, Wayne County, Michigan (42°22'19" North and 83°4'30" West) (Figure 2-1). The site consists of one two-story building that includes office space and storage on the upper level, and several plating lines and storage areas on the lower level. The building is situated in a commercial area and is bound to the north by Milwaukee Street, small commercial buildings, and grassy and parking areas. Paved parking areas and commercial buildings are located to the east of MP. An alley, several commercial and abandoned buildings, a fenced area littered with debris, and a church are situated south of MP. A grassy area, John R Street, an automotive repair shop, and additional commercial businesses are located west of MP. There are many large office buildings, including the Fisher and General Motors buildings, located within 1 mile of the site.

2.2 Site History

A City of Detroit site inspection on October 29, 1996, found that the facility operated as a small electroplating company under the name of Metro Plating. Property ownership is currently in the process of reverting to the State of Michigan due to nonpayment of taxes since 1988. The City of Detroit placed plywood over the entrances to the building in June 1996, to prevent access by trespassers, but during the site inspection in October 1996, found that the plywood had been removed. On December 17, 1996, the City of Detroit requested assistance from U.S. EPA in assessing and cleaning up the site.



 <p>Michigan</p> <p>Detroit</p>		 <p>ecology and environment, Inc.</p> <p>Superfund Technical Assessment and Response Team</p> <p>Region V</p>	
TITLE		FIGURE #	
Site Location Map		2-1	
SITE		SCALE	
Metro Plating		1:24,000	
QTY	STATE	TDD #	
Detroit	Michigan	S05-9704-014	
SOURCE/DATE USGS 7.5 Minute Series, Detroit, MI 1980/ Highland Park, MI 1983 Quadrangles			

3. Site Activities

3.1 Site Assessment Activities

On April 25, 1997, U.S. EPA and START performed a site assessment at the MP site. The Michigan Department of Environmental Quality (MDEQ) representatives, Ray Spaulding and John Russell, were also present. An initial site reconnaissance of the outside of the building and the perimeter of the site was conducted in level D personal protective equipment (PPE) (Figure 3-1). After U.S. EPA, START, and MDEQ completed the initial site inspection, a man informed the U.S. EPA OSC that he was in the process of purchasing the building and that he had boarded up the building several times, but vandals continued to remove the boards and enter the building through a door on the south side of the building.

START donned level B PPE and conducted a site reconnaissance of the interior of the building. Access to the building was obtained through a door on the south side. There were few windows and no electrical lighting on the lower level, but the upper level contained numerous windows. The plating area on the lower level consisted of five rooms containing 14 vats and 13 drums (Figure 3-2). The upper level contained paperwork and debris, and appeared to be an office area.

Air monitoring was conducted using a Micro flame ionization detector (MicroFID), MSA Passport (lower explosive limit [LEL], oxygen, hydrogen sulfide, and carbon monoxide), Dräger with a hydrogen cyanide sensor, Photovac Microtip photoionization detector (PID), and a Micro-R radiation meter. Readings above background levels on instrumentation were not detected during the site reconnaissance. START downgraded to level C PPE and began an inventory and preliminary waste characterization.

The largest room, Room 1, located on the east side of the building, was

an addition and contained only debris. The room to the west of Room 1, Room 2, contained the majority of the waste on site. Nine vats were located along the east wall of Room 2 in a sunken area of the floor. Two drums were located on the south wall, and a vat was located on the west wall. Two additional smaller vats and four drums were located on the north wall. Room 3, which was west of Room 2, contained two vats on a platform on the northwest corner. One drum containing residue was located in the center of Room 3. Room 4, which contained four drums along the north wall, was located to the north of Room 3. Room 5, which was located directly north of Room 2, contained only debris. A hallway, which connected Room 4 to Rooms 2 and 5, contained two drums.

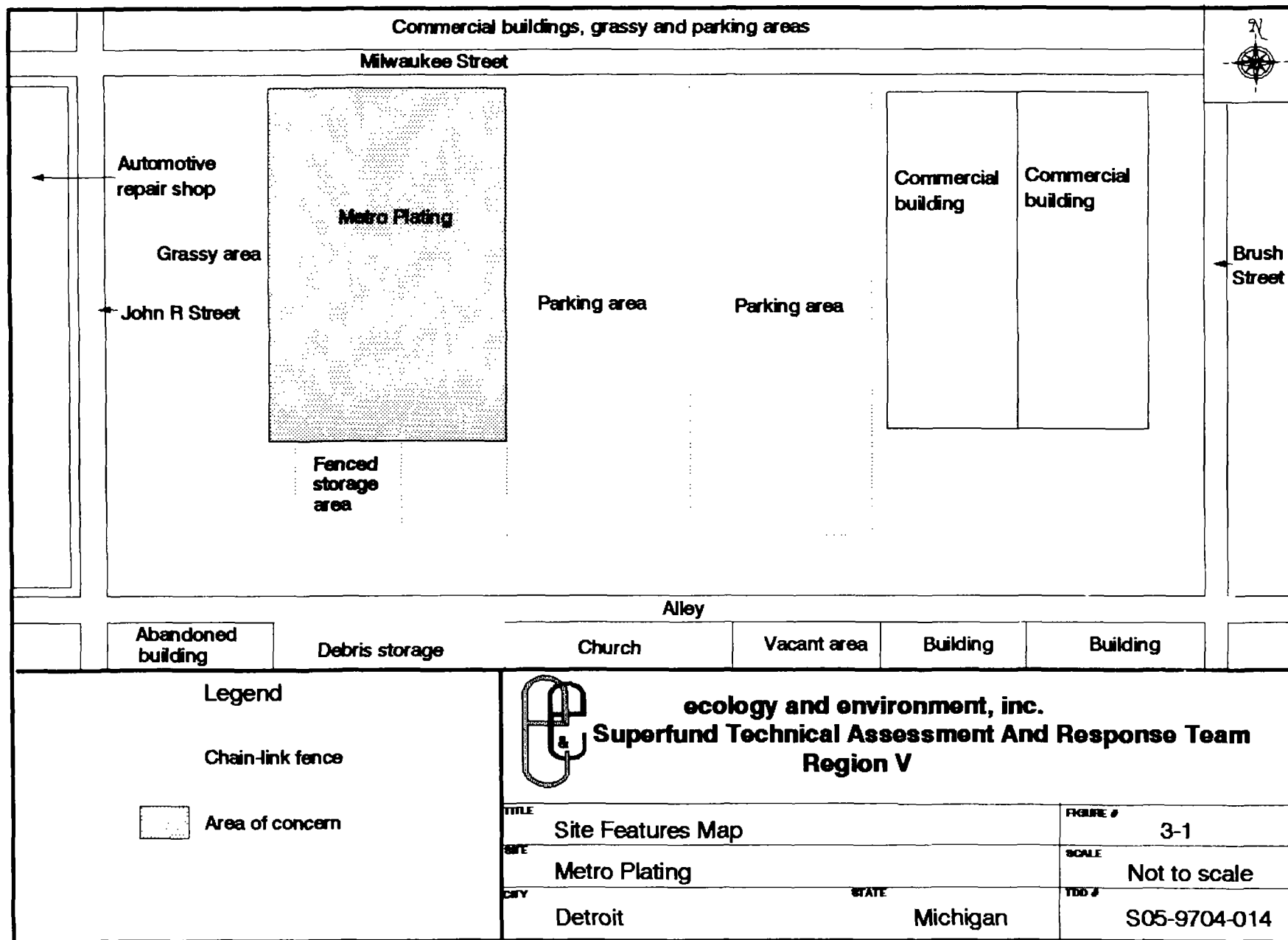
START utilized pH paper to determine the pH of the contents of vats and drums. pH values ranged between 0 and 14 standard units (S.U.). Approximate dimensions of the containers, as well as the volume of material present, were recorded. The results of the inventory are presented in Table 3-1. START observed that liquid was present in the northern end of the sunken area or pit surrounding the nine vats. The liquid in the pit (sample MPF1) had a field pH between 10 and 11, and surrounded a vat (sample MPV9) which had material with a pH between 0 and 1 (Figure 3-3).

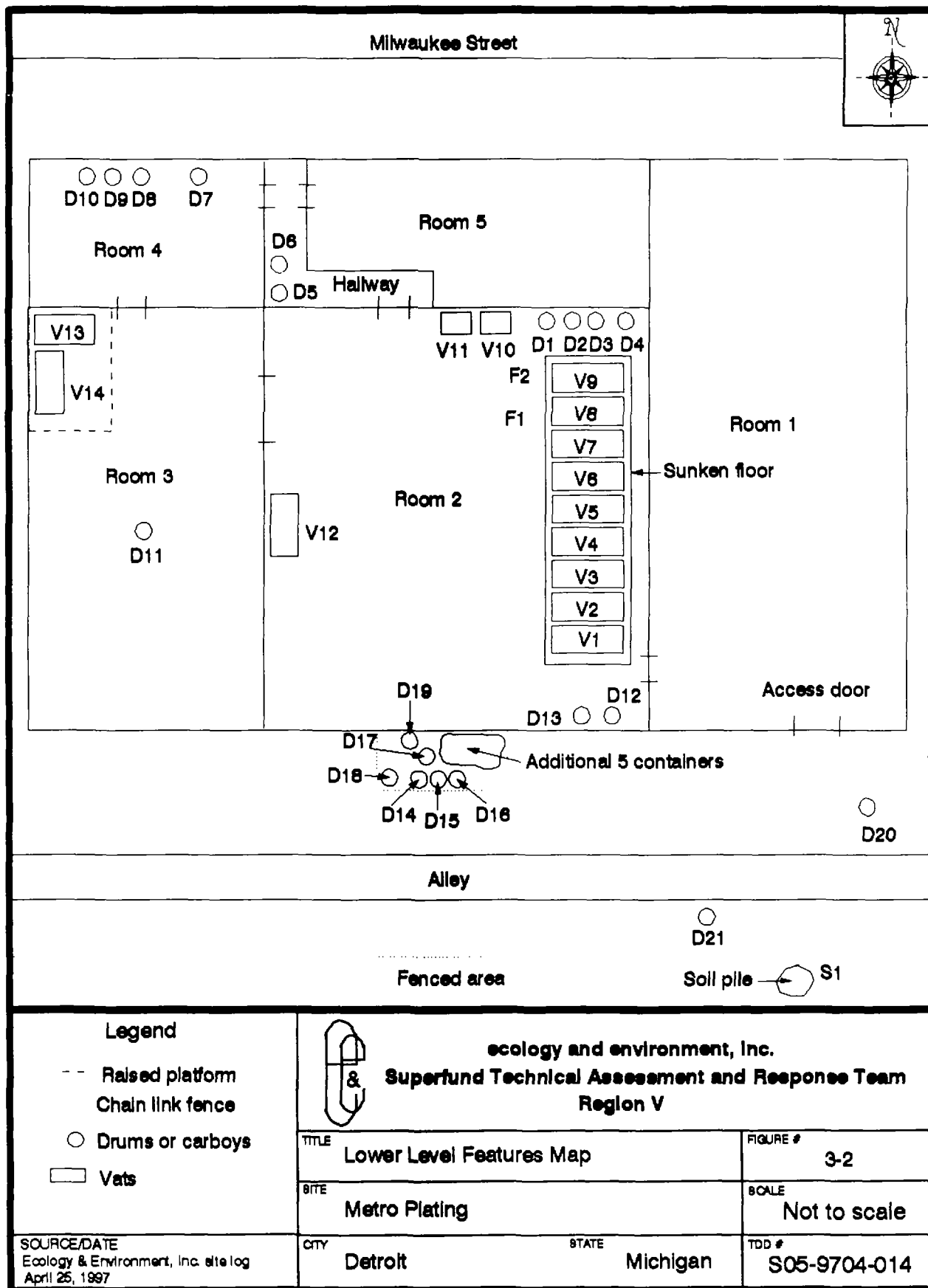
START continued waste inventory and characterization activities outside of the building. START located several drums scattered outside the building. There were approximately six drums in an unsecured, fenced area, attached to the south side of the building. A mound of soil was observed in another fenced area south of the alley and MP. The fenced area was inaccessible and contained additional drums and vats.

3.2 Sampling Activities

After the inventory was completed, U.S. EPA determined that a total of seven samples would be collected from drums, vats, and soil at the site. START proceeded to collect the seven samples. Sample MPV3, a black liquid, was collected from Vat 3 in Room 2. Sample MPV7, a green liquid, was collected from Vat 7 in Room 2. Sample MPV9, a yellow liquid, was collected from Vat 9 in Room 2. Sample MPF2, an orange liquid, was collected from the pit area in Room 2. Sample MPD2, a brownish-orange liquid, was collected from a polyethylene (poly) drum, Drum 2, in Room 2. Sample MPD19, an orange liquid, was collected from Drum 19 in the fenced area attached to the south

wall of the building. Soil sample MPS1 was collected through the fence from the mound of soil south of the alley.





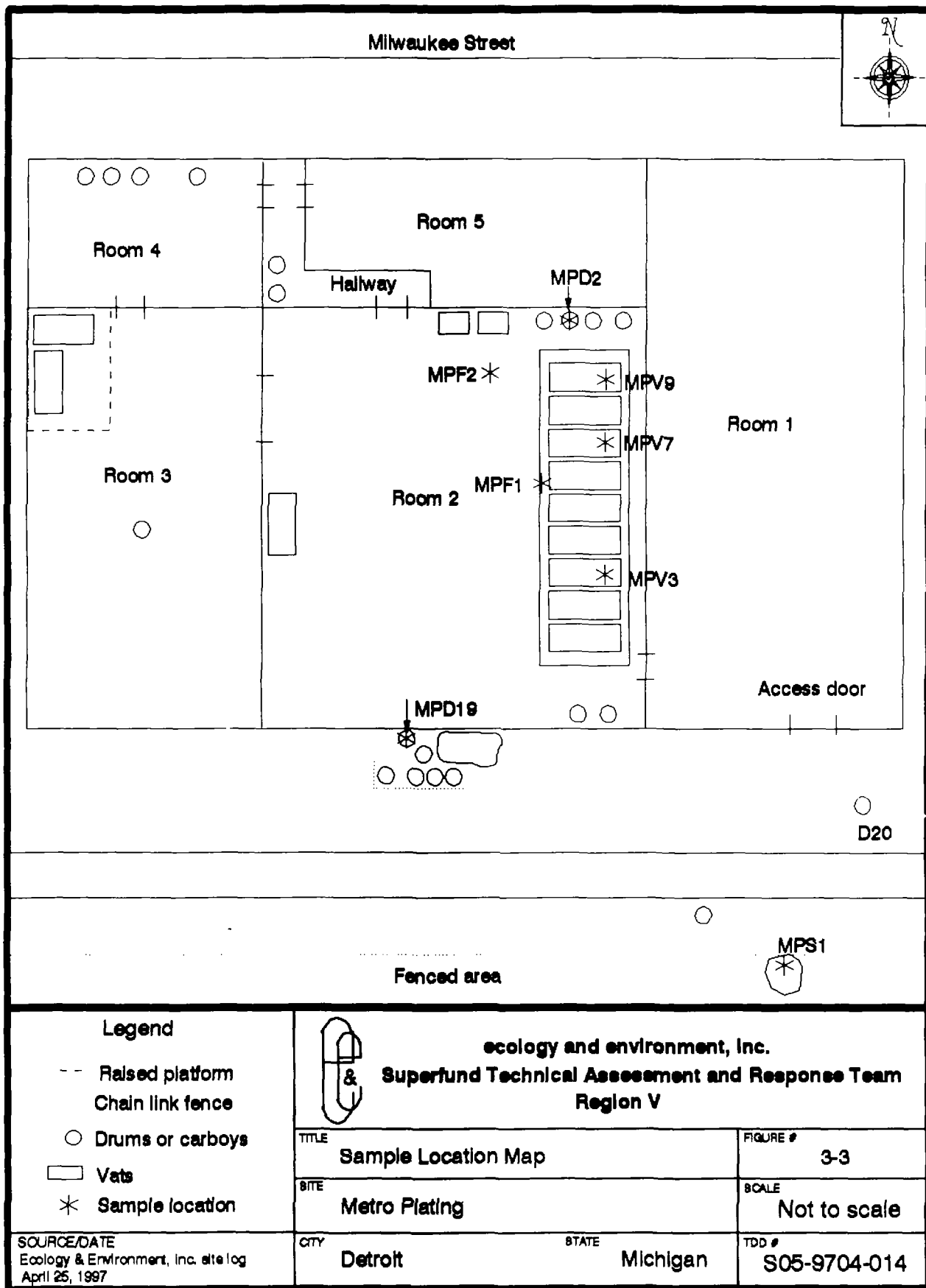


Table 3-1

**DRUM AND TANK CONTENT INVENTORY
METRO PLATING SITE
DETROIT, WAYNE COUNTY, MICHIGAN
APRIL 25, 1997**

Container	Field pH (standard units)	Approximate Volume Present (Gallons)
MPV1	3	95
MPV2	3	191
MPV3	NA	382
MPV4	NA	0
MPV5	5	95
MPV6	5	191
MPV7	4-5	382
MPV8	4-5	95
MPV9	0-1	572
MPV10	1	90
MPV11	11	90
MPV12	1	763
MPV13	12-13	572
MPV14	9-10	382
MPF1	10	280
MPF2	11-12	32
MPD1	0-1	Residue
MPD2	14	41
MPD3	1	28
MPD4	2	18
MPD5	1	NA
MPD6	9	41
MPD7	5-6	55
MPD8	5-6	55
MPD9	5-6	55

<p align="center">Table 3-1</p> <p align="center">DRUM AND TANK CONTENT INVENTORY</p> <p align="center">METRO PLATING SITE</p> <p align="center">DETROIT, WAYNE COUNTY, MICHIGAN</p> <p align="center">APRIL 25, 1997</p>		
Container	Field pH (standard units)	Approximate Volume Present (Gallons)
MPD10	5-6	55
MPD11	5-6	Residue
MPD12	3	28
MPD13	3	41
MPD14	1	Residue
MPD15	1	Residue
MPD16	1	Residue
MPD17	3	Residue
MPD18	5	23
MPD19	10-11	15
MPD20	5	6
MPD21	5-6	6

Key: NA = Not available.
V = Vat.
D = Drum.
F = Floor.

Source: E & E site logbook, April 25, 1997, TDD: S05-9704-014.

4. Analytical Results

On April 25, 1997, the site assessment team collected seven grab samples from the MP site. The samples were sent to National Environmental Testing, Inc., Auburn Hills, Michigan, for analyses under TDD S05-9704-811. The samples were analyzed in accordance with U.S. EPA Solid Waste (SW-846) Method 9040 for the determination of pH; Method 7.3.3.1 for the determination of reactive cyanide; and Methods 1311, 6010 and 7470 for the determination of Resource Conservation and Recovery Act (RCRA) toxicity characteristic leaching procedure (TCLP) metals. Analytical results are presented in Table 4-1.

Analytical results indicated that samples MPV3 and MPV9 had pH levels less than 1 standard unit. Sample MPD2 had a pH level greater than 12.5 standard units. Samples MPD2, MPD19, and MPV3 contained concentrations of TCLP chromium that exceeded the TCLP regulatory limit for this contaminant, with results between 38.1 milligrams per liter (mg/L) and 360,000 mg/L. Samples MPV3 and MPD19 contained concentrations of TCLP copper above the TCLP regulatory limit. Samples MPV3 and MPV7 contained concentrations of TCLP nickel above the naturally occurring soil concentration range of 5 to 500 parts per million (ppm). Sample MPD2 contained levels of TCLP zinc and lead exceeding the TCLP regulatory limits.

Table 4-1
pH, CYANIDE, AND TCLP RCRA METALS ANALYTICAL RESULTS
METRO PLATING SITE
APRIL 25, 1997

Parameter	Regulatory Limit	Sample Identification						
		MPV3	MPV7	MPV9	MPF2	MPD2	MPD19	MPS1
pH (standard units)	pH \leq 2, pH \geq 12.5	0.37	6.56	0.09	10.5	13.2	10.5	9.39
Total Cyanide (mg/kg)	None	BDL	BDL	NA	BDL	BDL	BDL	BDL
Reactive Cyanide (mg/kg)	None	BDL	BDL	NA	BDL	BDL	BDL	BDL
Total Iron (mg/L)	None	17,200	BDL	BDL	BDL	763	443	78,000
Arsenic (mg/L)	5.0 mg/L	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Barium (mg/L)	100.0 mg/L	BDL	BDL	0.13	0.32	0.96	2.96	0.52
Cadmium (mg/L)	1.0 mg/L	BDL	BDL	BDL	BDL	2.28	0.16	BDL
Chromium (mg/L)	5.0 mg/L	360,000	BDL	BDL	1.60	38.1	7.70	BDL
Copper (mg/L)	100 mg/L	4,680	0.12	4.78	12.6	56.0	204	7.10
Lead (mg/L)	5.0 mg/L	BDL	BDL	0.81	BDL	7.70	1.20	BDL
Mercury (mg/L)	0.2 mg/L	0.077	BDL	BDL	BDL	BDL	BDL	BDL
Nickel (mg/L)	None	12,200	1,810	1.29	2.64	60.5	74.5	116
Selenium (mg/L)	1.0 mg/L	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Silver (mg/L)	5.0 mg/L	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Zinc (mg/L)	500 mg/L	500	0.79	1.38	BDL	35,800	23.0	20.3

Key: mg/L = Milligrams per liter.
BDL = Not detected.
mg/kg = Milligrams per kilogram.
NA = Not analyzed.

Source: National Environmental Testing, Inc.
Analytical TDD: S05-9704-811.

5. Potential Threats

The site assessment at the MP site was conducted to evaluate the threat to public health and the environment posed by the potential for imminent release of hazardous substances from the site.

Conditions at the MP site present an imminent and substantial endangerment to public health, welfare, or the environment based upon factors set forth in the NCP, 40 CFR Section 300.415 (b)(2). These factors include:

- (i) **Actual or potential exposure to nearby human populations, animals, or the food chain from hazardous substances or pollutants or contaminants.** Samples MPV3 and MPV9 had pH levels less than 1 standard unit. Sample MPD2 had a pH level greater than 12.5 standard units. All of these are liquids staged in open top drums or vats. The building is not secure, and trespassers or vandals could easily come in contact with the corrosive liquids.

Vat 9, from which sample MPV9 was collected, is surrounded by fluid with a pH between 10 and 11. The corrosive nature of the liquid makes the breakdown of Vat 9 likely, which would result in a violent reaction when the acid in Vat 9 and the base in the pit mix.

Many of the vats also contain elevated levels of chromium, nickel, and copper. Trespassers or vandals are at risk of dermal contact with the liquid contained in the vats, drums, and pit area. There is no electricity in the building and few windows. A person could easily fall into a vat or pit and contact hazardous materials. During the site assessment, evidence of the presence of transient or homeless people living or seeking shelter in the building was observed. Such individuals and all trespassers are at severe risk of contamination through direct contact.

The main entrances to the building have been secured by the City of Detroit with plywood; however, the plywood has been removed by trespassers and vandals. This ease of access provides ample opportunity for exposure to hazardous materials by both humans and

animals that enter the building.

Vandals and individuals scavenging the building for saleable scrap could salvage the metal from a contaminated vat. Any such activity could release hazardous liquids from the vats and drums to the environment. Vandals may also tamper with, mix, and/or mishandle the chemicals which may prove to be harmful or even fatal.

(iii) **Hazardous substances or pollutants or contaminants in drums, barrels, tanks, or other bulk storage containers, that may pose a threat of release.** Many of the drums staged at the MP site were deteriorated. The deterioration of the drums and vats creates a threat of release of hazardous materials into the environment. The contents of many drums and vats are unknown at this time. Many drums were unlabeled, and the properties of the contents were unknown.

(v) **Weather conditions that may cause hazardous substances or pollutants or contaminants to migrate or be released.** The MP site had many drums staged outside and exposed to the environment. This would cause the deterioration of the drums to occur more rapidly. The drums staged outside are also more accessible to vandals or trespassers. An attempt to salvage the drums could cause the release of corrosive contents.

The MP building is vacant and abandoned, and all utilities have been shut off. This exposes the vats and drums and their contents to extreme temperatures and seasonal freeze/thaw cycles. These annual fluctuations serve only to increase the likelihood of future vat and drum rupturing or content overflow.

(vi) **Threat of fire or explosion.** Some of the chemicals in the building have not been identified, and a reaction causing a fire or explosion is very likely should incompatible chemicals mix and react.

6. Summary

Observations documented during the MP site assessment indicate that the conditions constitute an imminent and substantial endangerment to public health and welfare. This conclusion is based upon observations by U.S. EPA and START, as well as investigative reports from local officials, as evaluated against the criteria set forth in the NCP.

Based upon analytical results from samples collected by START and U.S. EPA, observations, and information provided to START, the materials found in the drums and vats are RCRA hazardous substances and wastes with the characteristics of corrosivity and toxicity (D006) per 40 CFR 261. The floor of the building, and especially in the pit area, is deteriorating from prior spills and splashing of corrosive liquids during operations, and could deteriorate further, causing structural problems. There are drum storage areas at the site which contain unsecured, open-top acid drums that could be accessed by vandals.

Based on the threat posed by the materials on site, a removal of drums; vats, including hardware such as hoses, pipes, and supports for vats; contents of vats, and drums; decontamination and/or disposal of vats and drums; and contaminated areas on the floor and walls, is recommended to eliminate the immediate threat. An extent of contamination study may be necessary to investigate floors and walls at the MP site to determine if any past spills have migrated outside the building and into surrounding soil.

Appendix A

Photodocumentation



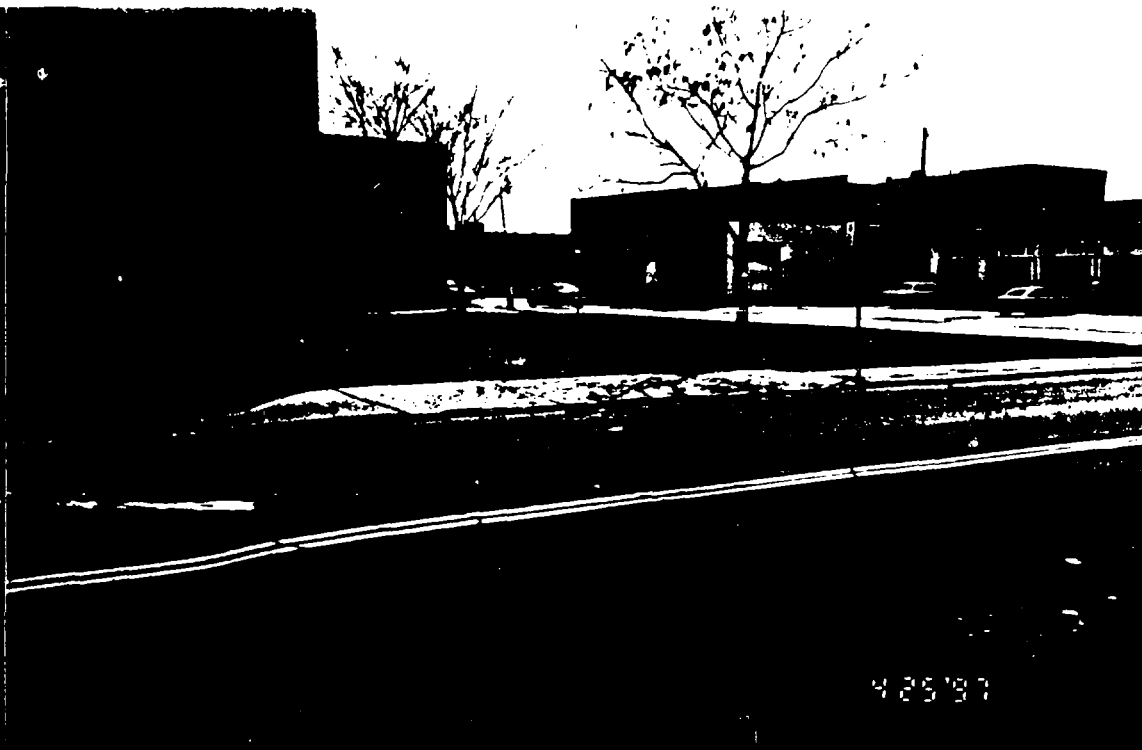
Site: Metro Plating
Photo No: 1 (R1F12)
Direction: Southwest
Camera: Olympus Infinity 35mm
Photographer: C. Gibson

Date: April 25, 1997
Subject: North side of Metro Plating.



Site: Metro Plating
Photo No: 2 (R1F13)
Direction: Southeast
Camera: Olympus Infinity 35mm
Photographer: C. Gibson

Date: April 25, 1997
Subject: Metro Plating, including a new portion on the east side.



Site: Metro Plating
Photo No: 3 (R1F14)
Direction: South
Camera: Olympus Infinity 35mm
Photographer: C. Gibson

Date: April 25, 1997
Subject: Vacant area to the west of Metro Plating.



Site: Metro Plating
Photo No: 4 (R1F9)
Direction: Northwest
Camera: Olympus Infinity 35mm
Photographer: E. Edlinger

Date: April 25, 1997
Subject: The south side of the Metro Plating building. Note the General Motors and Fisher Buildings in the background.



Site: Metro Plating
Photo No: 5 (R1F8)
Direction: North
Camera: Olympus Infinity 35mm
Photographer: E. Edlinger

Date: April 25, 1997
Subject: A fenced lot
 cluttered with debris, south
 of Metro Plating.



Site: Metro Plating
Photo No: 6 (R1F17)
Direction: Southeast
Camera: Olympus Infinity 35mm
Photographer: E. Edlinger

Date: April 25, 1997
Subject: The alley and fenced
 lot south of Metro Plating.



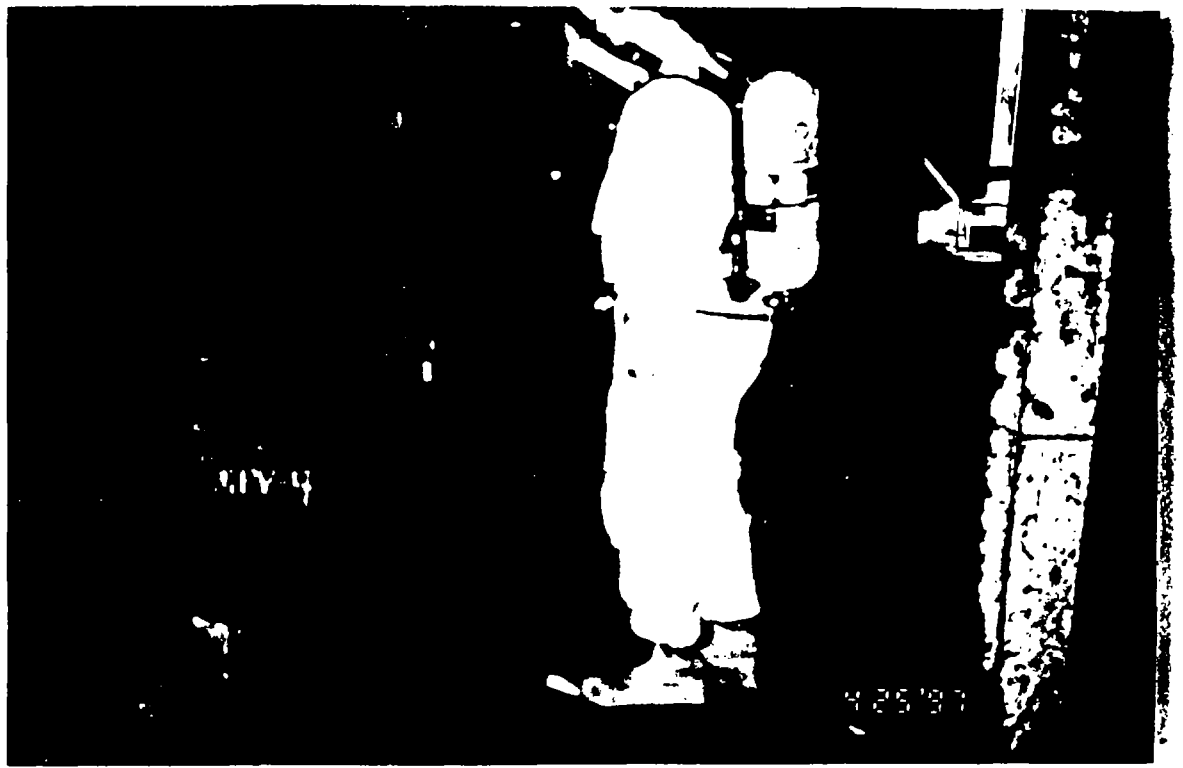
Site: Metro Plating
Photo No: 7 (R1F15)
Direction: East
Camera: Olympus Infinity 35mm
Photographer: C. Gibson

Date: April 25, 1997
Subject: The unsecured, fenced storage area south of the building.



Site: Metro Plating
Photo No: 8 (R1F16)
Direction: East
Camera: Olympus Infinity 35mm
Photographer: C. Gibson

Date: April 25, 1997
Subject: An access route trespassers or vandals have used to enter the south side of the building.



Site: Metro Plating
 Photo No: 9 (R1F1)
 Direction: East
 Camera: Olympus Infinity 35mm
 Photographer: E. Edlinger

Date: April 25, 1997
 Subject: START member collects
 sample MPV3.



Site: Metro Plating
 Photo No: 10 (R1F2)
 Direction: East
 Camera: Olympus Infinity 35mm
 Photographer: E. Edlinger

Date: April 25, 1997
 Subject: START member collects
 sample MPV7.



Site: Metro Plating
Photo No: 11 (R1F3)
Direction: Northeast
Camera: Olympus Infinity 35mm
Photographer: E. Edlinger

Date: April 25, 1997
Subject: START member collects
sample MPF2.



Site: Metro Plating
Photo No: 12 (R1F4)
Direction: Northeast
Camera: Olympus Infinity 35mm
Photographer: E. Edlinger

Date: April 25, 1997
Subject: START member collects
sample MPD2.



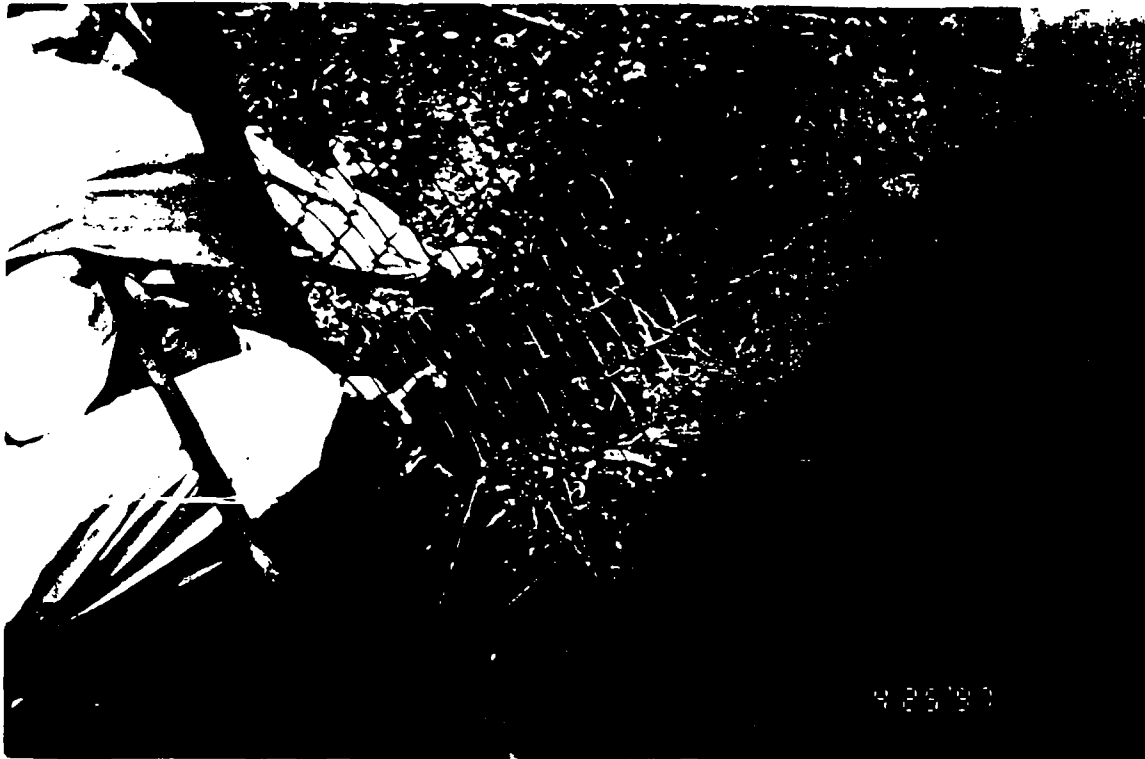
Site: Metro Plating
Photo No: 13 (R1F5)
Direction: East
Camera: Olympus Infinity 35mm
Photographer: E. Edlinger

Date: April 25, 1997
Subject: START member collects sample MPV9.



Site: Metro Plating
Photo No: 14 (R1F6)
Direction: Southeast
Camera: Olympus Infinity 35mm
Photographer: E. Edlinger

Date: April 25, 1997
Subject: START member collects sample MPD19.



Site: Metro Plating
 Photo No: 15 (R1F7)
 Direction: Southeast
 Camera: Olympus Infinity 35mm
 Photographer: E. Edlinger

Date: April 25, 1997
 Subject: START member collects
 sample MPS1.



Site: Metro Plating
 Photo No: 16 (R1F10)
 Direction: Southeast
 Camera: Olympus Infinity 35mm
 Photographer: E. Edlinger

Date: April 25, 1997
 Subject: Samples collected
 from Metro Plating.

Appendix B

Data Validation Memoranda



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International Specialists in the Environment

MEMORANDUM

DATE: May 13, 1997

TO: Erin Edlinger, START Project Manager, E & E, Taylor, Michigan

FROM: Brigid T. Brooks, START Chemical Engineer, E & E, Taylor, Michigan

THROUGH: Michael Dieckhaus, START Assistant Program Manager, E & E, Taylor, Michigan
David Hendren, START Quality Assurance Officer, E & E, Chicago, Illinois

SUBJECT: Toxicity Characteristic Leaching Procedure (TCLP) Michigan Metals and Nickel and Total Iron Analytical Data Quality Assurance Review, Metro Plating Site, Detroit, Wayne County, Michigan.

REFERENCE: Project TDD: S05-9704-014 Analytical TDD: S05-9704-811
Project PAN: 7A1401SIXX Analytical PAN: 7AAK01TA

The data quality assurance (QA) review of five waste liquid samples and two soil samples collected from the Metro Plating site, is complete. Samples were collected on April 25, 1997, by the Superfund Technical Assessment and Response Team (START) contractor, Ecology and Environment, Inc. (E & E). All samples were submitted to National Environmental Testing, Inc., Auburn Hills, Michigan, for analysis of TCLP Michigan metals, TCLP nickel and total iron. The laboratory analyses were performed according to the United States Environmental Protection Agency (U.S. EPA) Solid Waste-846 (SW-846) Methods 1311, 6010A and 7000 series for the determination of TCLP and total metals.

<u>START</u> <u>Identification No.</u>	<u>Laboratory</u> <u>Identification No.</u>
MPV3	219231
MPV7	219232
MPF2	219233
MPD2	219234
MPV9	219235
MPD19	219236
MPS1	219237

Data Qualifications

I. Holding Time: Acceptable

The samples were collected on April 25, 1997, and received by the laboratory on April 28, 1997. Samples were analyzed for TCLP Michigan metals, TCLP nickel, and total iron on May 2 and 6, 1997. All analyses were completed within the 6 month holding time for metals and 28 day holding time for mercury as specified in the Office of Solid Waste and Emergency Response (OSWER) Directive 9360.4-01.

II. Calibration:

A. Initial Calibration: Acceptable

Initial calibrations were within the recommended limits of 90 to 110% for metals, and 80 to 120% for mercury.

B. Continuing Calibration: Acceptable

Continuing calibration standards were analyzed and were within the recommended limit of 90 to 110% for metals, and 80 to 120% for mercury.

III. Method Blanks: Acceptable

Calibration and preparation blanks were analyzed with the samples. All analyte concentrations were below instrument detection limits.

IV. Inductively Coupled Plasma (ICP) Interference Check Samples: Acceptable

All ICP interference check samples were within 20% of the mean values. An ICP interference check sample was analyzed at both the beginning and the end of the sample run.

V. Overall Assessment of Data for Use: Acceptable

The overall usefulness of the data is based on the criteria outlined in OSWER Directive 9360.4-01 (April 1990), Data Validation Procedures; Section 3.0, Metallic Inorganic Parameters; and Section 2.7, Quality Assurance Requirements for QA Level II work. Based upon the information provided, the data are acceptable for use as reported.



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MEMORANDUM

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TO: Erin Edlinger, START Project Manager, E & E, Taylor, Michigan

FROM: Brigid T. Brooks, START Chemical Engineer, E & E, Taylor, Michigan

THROUGH: Michael Dieckhaus, START Assistant Program Manager, E & E, Taylor, Michigan
David Hendren, START Quality Assurance Officer, E & E, Chicago, Illinois

SUBJECT: Total and Reactive Cyanide Analytical Data Quality Assurance Review, Metro Plating Site, Detroit, Wayne County, Michigan.

REFERENCE: Project TDD: S05-9704-014 Analytical TDD: S05-9704-811
Project PAN: 7A1401SIXX Analytical PAN: 7AAK01TA

The data quality assurance (QA) review of four waste liquid samples and two soil samples collected from the Metro Plating site, is complete. Samples were collected on April 25, 1997, by the Superfund Technical Assessment and Response Team (START) contractor, Ecology and Environment, Inc. (E & E). All samples were submitted to National Environmental Testing, Inc., Auburn Hills, Michigan, for analysis of total and reactive cyanide. The laboratory analyses were performed according to the United States Environmental Protection Agency (U.S. EPA) Solid Waste-846 (SW-846) Methods 9010 and 7.3.3.2 for the determination of total and reactive cyanide concentrations.

Sample Identification

<u>START</u> <u>Identification No.</u>	<u>Laboratory</u> <u>Identification No.</u>
MPV3	219231
MPV7	219232
MPF2	219233
MPD2	219234
MPD19	219236
MPS1	219237

Data Qualifications

I. Holding Time: Acceptable

Samples were collected on April 25, 1997, and received by the laboratory on April 28, 1997. The samples were analyzed on May 6, 1997. All analyses were completed within the 14-day holding time specified for cyanide in the Office of Solid Waste and Emergency Response (OSWER) Directive 9360.4-01.

II. Calibration:

A. Initial Calibration: Acceptable

Initial calibrations were within the recommended limits of 85 to 115% for cyanide.

B. Continuing Calibration: Acceptable

A calibration standard was analyzed with the sample. The calibration standard was within the recommended limits of 85 to 115%.

III. Method Blank: Acceptable

A calibration blank was analyzed with the samples. Cyanide concentrations were below instrument detection limits.

IV. Overall Assessment of Data for Use: Acceptable

The overall usefulness of the data is based on the criteria outlined in the OSWER Directive 9360.4-01 (April 1990), Data Validation Procedures; Section 3.0, Metallic Inorganic Parameters; and Section 2.7, Quality Assurance Requirements. Based upon the information provided, the data are acceptable for use as reported.



ecology and environment, inc.

12251 UNIVERSAL, TAYLOR, MICHIGAN 48180, TEL. (313) 946-0900

International Specialists in the Environment

M E M O R A N D U M

DATE: May 13, 1997

TO: Erin Edlinger, START Project Manager, E & E, Taylor, Michigan

FROM: Brigid T. Brooks, START Chemical Engineer, E & E, Taylor, Michigan

THROUGH: Michael Dieckhaus, START Assistant Program Manager, E & E, Taylor, Michigan
David Hendren, START Quality Assurance Officer, E & E, Chicago, Illinois

SUBJECT: Miscellaneous Analytical Data Quality Assurance Review for pH, Metro Plating Site, Detroit, Wayne County, Michigan.

REFERENCE: Project TDD: S05-9704-014 Analytical TDD: S05-9704-811
Project PAN: 7A1401SIXX Analytical PAN: 7AAK01TA

The data quality assurance (QA) review of five waste liquid samples and two soil samples collected from the Metro Plating site, is complete. Samples were collected on April 25, 1997, by the Superfund Technical Assessment and Response Team (START) contractor, Ecology and Environment, Inc. (E & E). All samples were submitted to National Environmental Testing, Inc., Auburn Hills, Michigan, for analysis of pH. The laboratory analyses were performed according to the United States Environmental Protection Agency (U.S. EPA) Solid Waste-846 (SW-846) Method 9040B for the determination of pH.

Sample Identification

<u>START</u> <u>Identification No.</u>	<u>Laboratory</u> <u>Identification No.</u>
MPV3	219231
MPV7	219232
MPF2	219233
MPD2	219234
MPV9	219235
MPD19	219236
MPS1	219237

Metro Plating
Project TDD: S05-9704-014
Analytical TDD: S05-9704-811
Miscellaneous Data Quality Assurance Review
Page 2

Data Qualifications

I. Holding Time: Acceptable

Samples were collected on April 25, 1997, and received by the laboratory on April 28, 1997. Samples were analyzed on May 2, 1997. The Office of Solid Waste and Emergency Response (OSWER) Directive 9360.4-01 does not specify a holding time pH analysis, but the methods recommend that the analysis be completed immediately after collection. Samples were collected and stored in closed glass containers and, in this reviewer's professional judgement, sample integrity was not compromised.

II. Calibration:

A. Initial Calibration: Acceptable

The pH meter was calibrated with three buffers (4, 7, and 10), and the actual pH values were within 0.05 standard units of their true value.

B. Continuing Calibration: Not Applicable

A continuing calibration was not necessary since the samples were analyzed immediately following the instrument calibration.

III. Overall Assessment of Data for Use: Acceptable

The overall usefulness of the data is based on the criteria outlined in OSWER Directive 9360.4-01 (April 1990), Data Validation Procedures; Section 9.2, Non-Metal Inorganic Parameters; and Section 2.7, Quality Assurance Requirements. Based upon the information provided, the data are acceptable for use as reported.



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ANALYTICAL REPORT

Brigid Brooks
ECOLOGY & ENVIRONMENT INC
2251 Universal
Taylor, MI 48180

05/07/1997

Job No.: 97.01966
Sample No.: 219231

Project #KJ5102
Project Name #505-3704-811

Site Description: MPV3 Vat 3 04/25

Date Taken: 04/25/1997

Date Received: 04/28/1997

Parameter	Result	Unit	Date Prepared	Date Analyzed	Lab Tech.	Methodology	Note
Cyanide, Total	<1.0	mg/kg	05/02/1997	05/06/1997	gls	9010 (1)	
Corrosivity (pH)	0.37	units		05/02/1997	gah	9040 (1)	
Reactive Cyanide	<25	mg/kg		05/06/1997	gls	Sec 7.3.3.1 (1) 12	
Iron	17,200	mg/kg	05/01/1997	05/06/1997	mhr	6010A	
TCLP - Arsenic	<500	mg/L	05/01/1997	05/02/1997	jrw	6010A	
TCLP - Barium	<100	mg/L	05/01/1997	05/02/1997	jrw	6010A	
TCLP - Cadmium	<150	mg/L	05/01/1997	05/02/1997	jrw	6010A	
TCLP - Chromium	360,000	mg/L	05/01/1997	05/02/1997	jrw	6010A	
TCLP - Copper	4,680	mg/L	05/01/1997	05/02/1997	jrw	6010A	
TCLP - Lead	<400	mg/L	05/01/1997	05/02/1997	jrw	6010A	
TCLP - Mercury	0.077	mg/L		05/06/1997	jmm	7470A	
TCLP - Nickel	12,200	mg/L	05/01/1997	05/02/1997	jrw	6010A	
TCLP - Selenium	<500	mg/L	05/01/1997	05/02/1997	jrw	6010A	
TCLP - Silver	<200	mg/L	05/01/1997	05/02/1997	jrw	6010A	
TCLP - Zinc	500	mg/L	05/01/1997	05/02/1997	jrw	6010A	





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ANALYTICAL REPORT

Brigid Brooks
ECOLOGY & ENVIRONMENT INC
12251 Universal
Taylor, MI 48180

05/07/1997

Job No.: 97.01366
Sample No.: 219232

Project #KJ5102
Project Name #505-9704-811

ie Description: MPV7 Vac 7 04/25

Date Taken: 04/25/1997

Date Received: 04/28/1997

Parameter	Result	Unit	Date Prepared	Date Analyzed	Lab Tech.	Methodology	Note
Cyanide, Total	<1.0	mg/kg	05/02/1997	05/06/1997	gls	9010 (1)	
Corrosivity (pH)	6.56	units		05/02/1997	gan	9040 (1)	
Reactive Cyanide	<25	mg/kg		05/06/1997	gls	Sec 7.3.3.1 (1) 12	
Iron	<3.3	mg/kg	05/01/1997	05/06/1997	mhr	6010A	
TCLP - Arsenic	<1.0	mg/L	05/01/1997	05/02/1997	jrw	6010A	
TCLP - Barium	<0.10	mg/L	05/01/1997	05/02/1997	jrw	6010A	
TCLP - Cadmium	<0.30	mg/L	05/01/1997	05/02/1997	jrw	6010A	
TCLP - Chromium	<0.20	mg/L	05/01/1997	05/06/1997	mhr	6010A	
TCLP - Copper	0.12	mg/L	05/01/1997	05/02/1997	jrw	6010A	
TCLP - Lead	<0.40	mg/L	05/01/1997	05/02/1997	jrw	6010A	
LP - Mercury	<0.0010	mg/L		05/06/1997	jmm	7470A	
LP - Nickel	1.810	mg/L	05/01/1997	05/02/1997	jrw	6010A	
TCLP - Selenium	<0.50	mg/L	05/01/1997	05/02/1997	jrw	6010A	
TCLP - Silver	<0.20	mg/L	05/01/1997	05/02/1997	jrw	6010A	
TCLP - Zinc	0.79	mg/L	05/01/1997	05/02/1997	jrw	6010A	





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ANALYTICAL REPORT

Strigid Brooks
ECOLOGY & ENVIRONMENT INC
12251 Universal
Taylor, MI 48180

05/07/1997

Job No.: 97.01966
Sample No.: 219233

Project #KJ5102
Project Name #505-9704-811

File Description: MPF2 Floor 2 04/25

Date Taken: 04/25/1997

Date Received: 04/28/1997

Parameter	Result	Unit	Date Prepared	Date Analyzed	Lab Tech.	Methodology	Note
Cyanide, Total	<1.0	mg/kg	05/02/1997	05/06/1997	gls	9010 (1)	
Corrosivity (pH)	10.5	units		05/02/1997	gah	9040 (1)	
Reactive Cyanide	<25	mg/kg		05/06/1997	gls	Sec 7.3.3.1 (1) 12	
Iron	<3.3	mg/kg	05/01/1997	05/06/1997	mhr	6010A	
TCLP - Arsenic	<0.50	mg/L	05/01/1997	05/02/1997	jrw	6010A	
TCLP - Barium	0.32	mg/L	05/01/1997	05/02/1997	jrw	6010A	
TCLP - Cadmium	<0.15	mg/L	05/01/1997	05/02/1997	jrw	6010A	
TCLP - Chromium	1.50	mg/L	05/01/1997	05/06/1997	mhr	6010A	
TCLP - Copper	12.6	mg/L	05/01/1997	05/02/1997	jrw	6010A	
TCLP - Lead	<0.40	mg/L	05/01/1997	05/02/1997	jrw	6010A	
TCLP - Mercury	<0.0010	mg/L		05/06/1997	jmm	7470A	
TCLP - Nickel	2.64	mg/L	05/01/1997	05/02/1997	jrw	6010A	
TCLP - Selenium	<0.50	mg/L	05/01/1997	05/02/1997	jrw	6010A	
TCLP - Silver	<0.20	mg/L	05/01/1997	05/02/1997	jrw	6010A	
TCLP - Zinc	<0.25	mg/L	05/01/1997	05/02/1997	jrw	6010A	





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ANALYTICAL REPORT

Brigid Brooks
ECOLOGY & ENVIRONMENT INC
12251 Universal
Taylor, MI 48180

05/07/1997

Job No.: 97-01966
Sample No.: 219234

Project #KJ5102
Project Name #505-9704-811

File Description: MPD2 Drum 2 04/25

Date Taken: 04/25/1997

Date Received: 04/28/1997

Parameter	Result	Unit	Date Prepared	Date Analyzed	Lab Tech.	Methodology	Note
Cyanide, Total	<1.0	mg/kg	05/02/1997	05/06/1997	gls	9010 (1)	
Corrosivity (pH)	13.2	units		05/02/1997	gah	9040 (1)	
Reactive Cyanide	<25	mg/kg		05/06/1997	gls	Sec 7.3.3.1 (1) 12	
Iron	763	mg/kg	05/01/1997	05/06/1997	mhr	6010A	
TCLP - Arsenic	<25	mg/L	05/01/1997	05/02/1997	jrw	6010A	
TCLP - Barium	0.96	mg/L	05/01/1997	05/02/1997	jrw	6010A	
TCLP - Cadmium	2.28	mg/L	05/01/1997	05/02/1997	jrw	6010A	
TCLP - Chromium	38.1	mg/L	05/01/1997	05/06/1997	mhr	6010A	
TCLP - Copper	56.0	mg/L	05/01/1997	05/02/1997	jrw	6010A	
TCLP - Lead	7.70	mg/L	05/01/1997	05/02/1997	jrw	6010A	
TCLP - Mercury	<0.0010	mg/L		05/06/1997	jmm	7470A	
TCLP - Nickel	60.5	mg/L	05/01/1997	05/02/1997	jrw	6010A	
TCLP - Selenium	<0.50	mg/L	05/01/1997	05/02/1997	jrw	6010A	
TCLP - Silver	<0.20	mg/L	05/01/1997	05/02/1997	jrw	6010A	
TCLP - Zinc	35.800	mg/L	05/01/1997	05/02/1997	jrw	6010A	





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ANALYTICAL REPORT

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05/07/1997

Job No.: 97.01966
Sample No.: 219235

Project #KJ5102
Project Name #505-9704-811

Site Description: MPV9 Vac 9 04/25

Date Taken: 04/25/1997

Date Received: 04/28/1997

Parameter	Result	Unit	Date Prepared	Date Analyzed	Lab Tech.	Methodology	Note
Corrosivity (pH)	0.09	units		05/02/1997	gah	9040 (1)	
Iron	<3.3	mg/kg	05/01/1997	05/06/1997	mhr	6010A	
TCLP - Arsenic	<0.50	mg/L	05/01/1997	05/02/1997	jrw	6010A	
TCLP - Barium	0.13	mg/L	05/01/1997	05/02/1997	jrw	6010A	
TCLP - Cadmium	<0.15	mg/L	05/01/1997	05/02/1997	jrw	6010A	
TCLP - Chromium	<0.20	mg/L	05/01/1997	05/06/1997	mhr	6010A	
TCLP - Copper	4.78	mg/L	05/01/1997	05/02/1997	jrw	6010A	
TCLP - Lead	0.81	mg/L	05/01/1997	05/02/1997	jrw	6010A	
TCLP - Mercury	<0.0010	mg/L		05/06/1997	jmm	7470A	
TCLP - Nickel	1.29	mg/L	05/01/1997	05/02/1997	jrw	6010A	
P - Selenium	<0.50	mg/L	05/01/1997	05/02/1997	jrw	6010A	
- - Silver	<0.20	mg/L	05/01/1997	05/02/1997	jrw	6010A	
TCLP - Zinc	1.38	mg/L	05/01/1997	05/02/1997	jrw	6010A	





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ANALYTICAL REPORT

Brigid Brooks
ECOLOGY & ENVIRONMENT INC
2251 Universal
Troy, MI 48060

05/07/1997

Job No.: 97.01966
Sample No.: 219236

Project #KJ5102
Project Name #505-9704-811

File Description: MPD19 Drum 19 04/25

Date Taken: 04/25/1997

Date Received: 04/28/1997

Parameter	Result	Unit	Date Prepared	Date Analyzed	Lab Tech.	Methodology	Note
Cyanide, Total	<1.0	mg/kg	05/02/1997	05/06/1997	gls	9010 (1)	
Corrosivity (pH)	10.5	units		05/02/1997	gah	9040 (1)	
Reactive Cyanide	<25	mg/kg		05/06/1997	gls	Sec 7.3.3.1 (1) 12	
Iron	443	mg/kg	05/01/1997	05/06/1997	mhr	6010A	
TCLP - Arsenic	<0.50	mg/L	05/01/1997	05/02/1997	jrw	6010A	
TCLP - Barium	2.96	mg/L	05/01/1997	05/02/1997	jrw	6010A	
TCLP - Cadmium	0.16	mg/L	05/01/1997	05/02/1997	jrw	6010A	
TCLP - Chromium	7.70	mg/L	05/01/1997	05/06/1997	mhr	6010A	
TCLP - Copper	204	mg/L	05/01/1997	05/02/1997	jrw	6010A	
TCLP - Lead	1.20	mg/L	05/01/1997	05/02/1997	jrw	6010A	
? - Mercury	<0.0010	mg/L		05/06/1997	jmm	7470A	
- Nickel	74.5	mg/L	05/01/1997	05/02/1997	jrw	6010A	
TCLP - Selenium	<0.50	mg/L	05/01/1997	05/02/1997	jrw	6010A	
TCLP - Silver	<0.20	mg/L	05/01/1997	05/02/1997	jrw	6010A	
TCLP - Zinc	23.0	mg/L	05/01/1997	05/02/1997	jrw	6010A	





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ANALYTICAL REPORT

Brigid Brooks
ECOLOGY & ENVIRONMENT INC
2251 Universal
Auburn Hills, MI 48180

05/07/1997

Job No.: 97.01966
Sample No.: 219237

Project #KJ5102
Project Name #505-9704-811

Sample Description: MPS1 Soil 1 04/25

Date Taken: 04/25/1997

Date Received: 04/28/1997

Parameter	Result	Unit	Date Prepared	Date Analyzed	Lab Tech.	Methodology	Note
Cyanide, Total	<1.0 J	mg/kg	05/02/1997	05/06/1997	gls	9010 (1)	9
Solids, Total	61	%		04/30/1997	aas	160.3 (3)	
Corrosivity (pH)	9.39	units		05/02/1997	gah	9040 (1)	
Reactive Cyanide	<25	mg/kg		05/06/1997	gls	Sec 7.3.3.1 (1)	12
TCLP - Arsenic	<0.50	mg/L	05/01/1997	05/02/1997	jrw	6010A	
TCLP - Barium	0.52	mg/L	05/01/1997	05/02/1997	jrw	6010A	
TCLP - Cadmium	<0.15	mg/L	05/01/1997	05/02/1997	jrw	6010A	
TCLP - Chromium	<0.20	mg/L	05/01/1997	05/06/1997	mhr	6010A	
TCLP - Copper	7.10	mg/L	05/01/1997	05/02/1997	jrw	6010A	
TCLP - Lead	<0.40	mg/L	05/01/1997	05/02/1997	jrw	6010A	
TCLP - Mercury	<0.0010	mg/L		05/06/1997	jmm	7470A	
TCLP - Nickel	116	mg/L	05/01/1997	05/02/1997	jrw	6010A	
TCLP - Selenium	<0.50	mg/L	05/01/1997	05/02/1997	jrw	6010A	
TCLP - Silver	<0.20	mg/L	05/01/1997	05/02/1997	jrw	6010A	
TCLP - Zinc	20.3	mg/L	05/01/1997	05/02/1997	jrw	6010A	
Iron	78,000	mg/kg			swb	6010A	

CASE NARRATIVE - Cyanide - Estimated result of 0.6 mg/kg

